



28228

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Leonard Forbes

Title: SILICON-GERMANIUM DEVICES FOR CMOS FORMED BY ION IMPLANTATION AND SOLID PHASE EPITAXIAL REGROWTH

Docket No.: 303.229US2
Filed: August 11, 1998
Examiner: Mark Prenty

Serial No.: 09/132,157
Due Date: December 1, 1999
Group Art Unit: 2822

Assistant Commissioner for Patents
Washington, D.C. 20231

We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ A return postcard.
- ☒ An Amendment and Response (8 Pages).
- ☒ A check in the amount of \$234.00 to cover the fee for additional claims as calculated below.

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If an additional fee is required due to changes to the claims, the fee has been calculated as follows:

CLAIMS AS AMENDED						
	(1) Claims Remaining After Amendment		(2) Highest Number Previously Paid For	(3) Present Extra	Rate	Fee
TOTAL CLAIMS	19	-	20		x 18 =	\$0.00
INDEPENDENT CLAIMS	8	-	5	3	x 78 =	\$234.00
[] MULTIPLE DEPENDENT CLAIMS PRESENTED						\$0.00
TOTAL						\$234.00

Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described above, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 30th day of November, 1999.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
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(GENERAL)

S/N 09/132,157

PATENT

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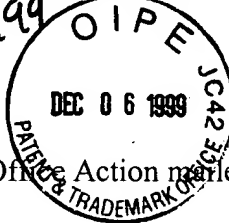
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IMPLANTATION AND SOLID PHASE EPITAXIAL REGROWTH

AMENDMENT AND RESPONSE

Assistant Commissioner for Patents
Washington, D.C. 20231



Applicant has reviewed the Office Action mailed September 1, 1999. Please amend the application as follows:

IN THE CLAIMS

Please add claims 38-43 as provided below:

38. (New) A semiconductor transistor, comprising:
a silicon substrate;
a gate oxide, coupled to the substrate;
a gate, coupled to the gate oxide;
source/drain regions formed in the substrate on opposite sides of the gate; and
a $\text{Si}_{1-x}\text{Ge}_x$ channel region, having a germanium molar fraction of x , and formed in the substrate, underneath and adjoining the gate oxide and between the source/drain regions;
wherein the $\text{Si}_{1-x}\text{Ge}_x$ channel region is formed from ion implanting germanium (Ge) through the gate oxide; and
wherein the germanium molar fraction is less than about 0.6.
39. (New) The transistor of claim 38, wherein the $\text{Si}_{1-x}\text{Ge}_x$ channel is approximately 100 to 1,000 angstroms thick.
40. (New) A semiconductor transistor formed on a silicon substrate, comprising:
a $\text{Si}_{1-x}\text{Ge}_x$ channel region, having a germanium molar fraction of x , and formed in the substrate, underneath and adjoining a gate oxide and between a source region and a drain region;

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